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ABSTRACT

Generally accepted methods of evaluation and measurement used by responsible educators are first discussed. These techniques are demonstrated as they apply to evaluating school health education programs. It is pointed out that effective evaluation encompasses everyone upon whom the program has an impact--students, teachers, supervisors, administrators, parents, and the community. The fact is that what to evaluate in health instruction--values, content, objectives, learning opportunities, classroom environment, and the evaluation process itself--is an important factor in obtaining an overall assessment. It is stressed that regardless of the techniques used, evaluation should be based upon specified objectives in order to develop precise evaluative techniques or measurements. (JD)

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THE WHY'S, WHAT'S, WHO'S, WHEN'S AND HOW'S OF MEASUREMENT AND EVALUATION IN SCHOOL HEALTH EDUCATION

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Measurement and evaluation in school health education can become an extremely complex difficult task, In order to make valid and reliable judgments in this area, measurement and evaluation must first be defined.

According to Ahmann and Glock evaluation, "is the systematic process of determining the effectiveness of educational endeavors in the light of evidence."[1] Tyler indicated that evaluation is the process of:

1. Appraisal of academic achievement of individual pupils.
2. Diagnosis of learning difficulties of an individual pupil or an entire class.
3. Appraisal of the educational effectiveness of a curriculum, instructional materials and procedures, and organizational arrangements.
4. Assessment of the educational progress of large populations, so as to help understand educational problems and develop sound public policy in education.[2]

Stanley and Hopkins indicated that evaluation is used, "to designate summing up processes in which value judgments play a large part."[3] Barrow and McGee wrote that:

> evaluation is a process of education which makes use of measurement techniques which, when applied to either the product or process, results in both qualitative and quantitative data

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[1] J. Ahmann and M. Glock, Evaluating Pupil Growth. Boston: Allyn and Bacon Publishers, 1971, 4.

[2] R. Tyler, "The Objectives and Plans for a National Assessment of Educational Progress," Journal of Educational Measurement, 1966, 3:1-4.

[3] J. Stanley and K. Hopkins, Educational and Psychological Measurement and Evaluation.

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> expressed in both subjective and objective manner and used for comparisons with preconceived criteria.[4]

Evaluation, thus, has many meanings of which is both process and product related in terms of, for example, determining the achievement of educational objectives, stating educational objectives, identifying behavioral changes, and assisting the teacher to really know his students.

Measurement is considered by Ahmann and Glock as a "process that attempts to obtain a quantified representation of the degree to which a pupil reflects a trait,"[5] generally indicated in the form of a numerical score, i.e., IQ. Barrow and McGee indicated that:

> measurement is a technique of evaluation which makes use of procedures which are generally precise and objective, which will generally result in quantitative data, and which characteristically can express its results in numerical form. It may be applied to qualitative procedures, however, when its techniques are objective.[6]

Stanley and Hopkins consider the measurement process as, "the construction, administration, and scoring of tests."[7] Lien indicated that measurement is "the collection of data by both objective and subjective means."[8] Measurement then, "concentrates on a narrow, specific, and well defined trait or characteristic, and then strives to determine with precision the

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[4]H. Barrow and R. McGee, A Practical Approach to Measurement in Physical Education. Philadelphia: Lea and Felsiger, 1973, 7.

[5]Ahmann and Glock, Ibid., 12.

[6]Barrow & McGee, Ibid.

[7]Stanley & Hopkins, Ibid.

[8]A Lien, Measurement and Evaluation of Learning, Dubuque, Iowa: W. C. Brown, Publishers, 1976, 11.

degree to which the trait is possessed by an individual pupil."[9] Finally, measurement is just one portion of the evaluation process.

Why Evaluate

The many reasons for evaluation encompass much more than providing a basis for grading students. Evaluation is useful in determining the needs for the health program, in assessing the strengths and weaknesses of the program and for improving the program.

1. It is an integral part of the development of a program by assessing individual, group, and societal needs for the purpose of determining the health content of the instructional program.
2. It makes it possible to determine strengths and weaknesses of the instructional program in terms of the abilities of teaching personnel, the effectiveness of learning opportunities (including activities and human and material resources) and the organization of health instruction.
3. It is also concerned with the extent to which objectives have been attained in terms of behaviors sought in the learner relative to specific health content. Well stated objectives provide the basis for evaluation, in that they identify specifically the kinds of behavior changes sought in relation to specific health content. Those in health education should be concerned with evaluating a range of cognition (knowledge, comprehension, analysis, synthesis, and evaluation), attitudes, and practices. A major concern in evaluating health instruction is the degree to

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[9]Ahmann and Glock, Ibid., 13.

which instructional objectives have been attained by the learner. The ultimate goal in health education is to reinforce or bring about favorable changes in health behavior (those behaviors stated in objectives).

What to Evaluate

It is also important to consider what to evaluate in health instruction--values, content, objectives, learning opportunities, classroom environment, and the evaluative process itself.

Values. There is a continual need to appraise values or points of view concerning health, education, and the school health program. In conducting such an appraisal, it is important to consider the points of view held by district personnel, those in the community, and those at the state and national levels.

Content. The content of health instruction should be evaluated periodically if it is to be meaningful and realistic.

Objectives. These should be evaluated as they are pivotal to the instructional program.

Learning Opportunities. These should be evaluated to determine the extent to which they help students to attain objectives.

Environment. The setting should be evaluated to determine if the physical and emotional environment is conducive to learning.

Evaluative Process. Consideration should be given to the tools (or measuring devices) that are being used to determine whether or not objectives have been attained.

Who to Evaluate

Because of the varied purposes of evaluation and the number of things that are to be evaluated, there is a need to evaluate anyone directly or indirectly related to the instructional program. Effective evaluation involves students, teachers, supervisors, administrators, parents, and the community.

Student/Learner. A central concern in health education is the learner; activities in health education revolve around him. Thus, in evaluation a central concern is the learner. The process of evaluation should be conducted to assess the health status of the learner. As health instruction progresses, the student is evaluated to determine the extent to which health attitudes, practices. and cognitive skills have been attained.

Teachers. The teacher should periodically check on himself. He should evaluate consistently and critically the degree to which students have attained specified objectives.

Administrators. The ultimate success or failure of a program is the administrator's responsibility. The kind of personnel he hires to carry out the instructional program, the importance he places upon health education, and his general administrative policies and procedures must all carefully be considered when health instruction is evaluated.

People in the Community. The health needs and interests of people in the community are important considerations in deciding what to teach. Assessing health needs of individuals within the community over a long period of time may be an indirect means of

determining the effectiveness of the existing health program. The task of evaluating in the community should be a shared responsibility between those concerned with health in the community and those concerned with health in the schools.

When to Evaluate

Evaluation is a continuous process and is an integral part of health instruction. It should be conducted (1) before instruction, (2) during instruction, and (3) after instruction.

Before Instruction. Before the instructional program begins, health needs, interests and the status of individuals and of society should be assessed to determine the nature and extent of the health instruction program. Evaluation provides data that serve as the basis for shaping the program.

During Instruction. As instruction continues, progress that is being made toward stated objectives should be evaluated periodically. Instructional techniques, learning opportunities, and environment, as well as learner progress, should be assessed. Continuous evaluation provides feedback which enables the educator to make sensitive adjustments in the instructional program so that health needs of the learner can better be met.

After Instruction. When instruction is completed, the extent to which stated objectives have been attained should be evaluated. The results of this evaluation will serve as a basis for redeveloping and improving the existing health instruction program.

How to Evaluate

In determining how to evaluate, two broad categories of evaluative

techniques will be considered: (1) clinical or subjective, and (2) statistical or objective. Despite the vast differences between format and construction of varied measuring instruments, there are certain common standards or criteria which any measuring instrument should meet. It makes no difference whether one plans to use a true-false test, an essay test, or a rating scale; each should be selected carefully in terms of the criteria of validity, reliability, and usability.

Regardless of the techniques utilized, evaluation should be based upon specified objectives. Without objectives evaluation becomes aimless - an end rather than a means to an end. The greater the clarity and specificity of objectives, particularly in terms of measurable behavior desired of the learner, the greater is the opportunity to develop more precise evaluative techniques or instruments.